Death ray or ray of hope?

The Incredible Laser

Here's an exciting report on science's new "Aladdin's lamp." It can light up the moon, kill instantly or perform miracle surgery

By STUART H. LOORY

IN A LABORATORY at Schenectady, N.Y., a group of General Electric engineers recently pointed a basketball-size instrument at a diamond, pulled the trigger and burned a hole right through the diamond in two hundred millionths of a second.

At Lexington, Mass., a group of scientists from M.I.T. and the Raytheon Co. pointed the same type of device at the darkened moon. The resulting flash illuminated a two-mile circle on the moon's surface as easily as switching on a lamp.

This new scientific tool has been named the "laser" (rhymes with razor). Scientists say it gives off "coherent light waves." Military men describe it as producing "focused energy," and foresee its use to track and instantly destroy enemy missiles headed toward the U.S.

The laser may have greater impact than any discovery so far in the burgeoning field of electronics, which has already brought us radar, transistors, satellite tracking networks, TV. The technological revolution it brings about may dwarf any in the past.

What does "laser" mean?

What exactly is a laser and what does it do? The word is made up of the initial letters of "Light Amplification by Stimulated Emission of Radiation." In ordinary light, atoms emit their rays haphazardly in all directions. What the laser does is to force the atoms to emit their radiation in phase, so that a very narrow beam of extremely high intensity results. Focus this beam, and it will carry super-potent light vast distances.

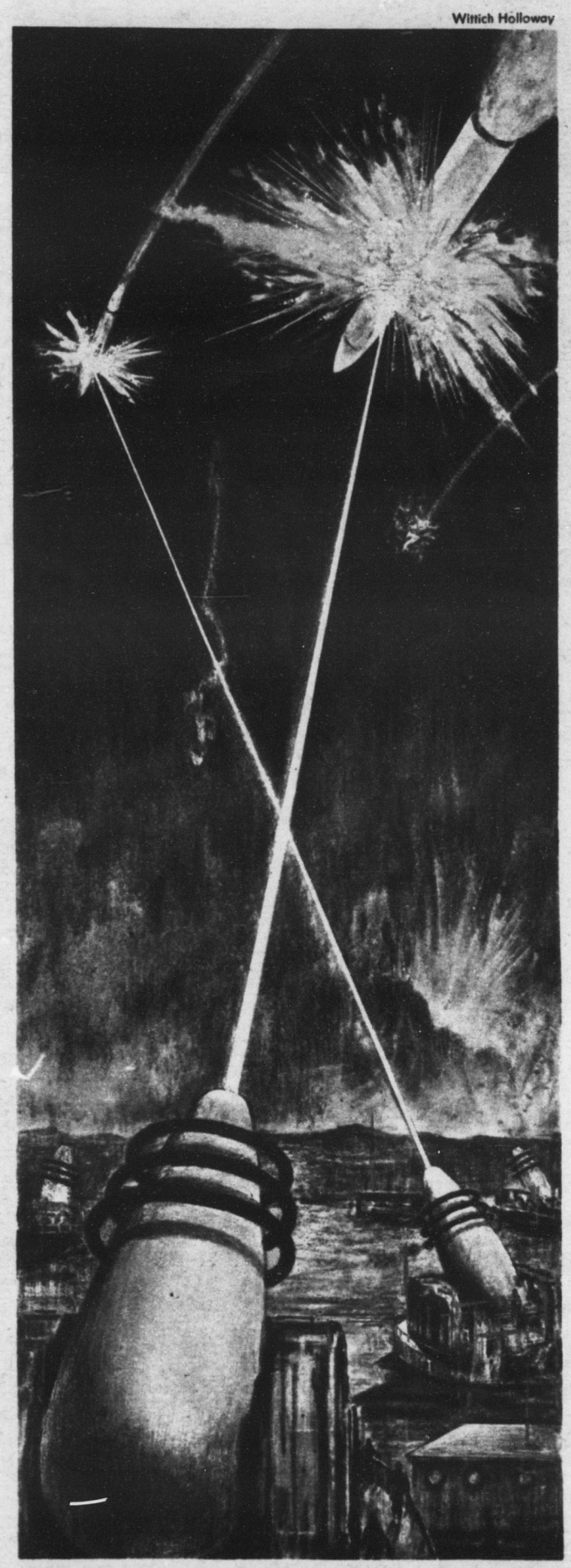
At the core of this modern "Aladdin's lamp" is either a rod of man-made ruby or a tube filled with one of the inert gases such as helium or krypton. The Aladdins who are busily rubbing this "lamp" are more than two thousand scientists working in 400 laboratories across the country. Part of their aim is to fit the laser into weapons systems, for there is little doubt of its enormous and versatile military potential.

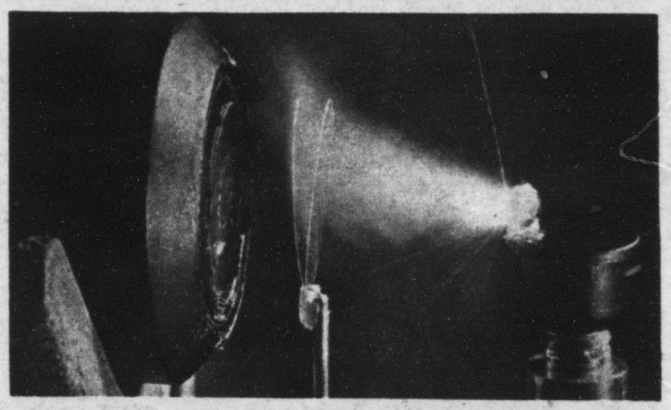
Energy with the speed of light

General Curtis E. LeMay, Air Force Chief of Staff, believes the laser may serve to restore the balance between offense and defense. "The energy directed by these [laser] weapons could travel across space essentially with the speed of light. This would be an invaluable characteristic for the interception of ICBM weapons and their decoys."

The Army is also thinking of laser uses, among them the "death ray" that has long fascinated science-fiction writers. The Army's death-ray gun would be small enough to be carried or worn as a side-arm — just like the "ray guns" of so many movies and adventure strips. Engineers at the Frankford Arsenal near Philadelphia are investigating a weapon which, presumably, would fire a light ray of enormous intensity, all but invisible because of its narrow (pencil-thin) breadth and its millionth-of-a-second speed. A soldier — continued on next page

Wittich Holloway





FORCE FOR WAR AND PEACE: *The same fantastic new power of the laser that can pierce a diamond in an instant (directly above) may be the key to speed-of-light missile killing (top)*